

DIACHRONISM BETWEEN EXTINCTION TIME OF TERRESTRIAL
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The dinosaur eggs of southern France occur in continental, fine-grained red-beds, rich in carbonate. The last eggs in the region occur in the magnetic polarity interval 30 normal (1). Estimates of the accumulation rate of these sediments on the basis of the magneto-stratigraphy leads to placement of the time of disappearance of the dinosaurs in this region of 200.000 to 400.000 years earlier than the Cretaceous-Tertiary boundary.

In the Red Deer Valley, Canada, estimates of average accumulation rate lead to a time of disappearance of the dinosaurs of 135.000 to 157.000 years earlier than the Cretaceous-Tertiary boundary (2,3).

In the central part of Poland, in the Nasilow Quarry, the paleomagnetic pattern shows 7 m of chalk of reversed polarity containing in its upper part the marine Cretaceous-Tertiary biostratigraphic boundary (4). The Cretaceous chalk is capped by a hardground. On top is found a greensand deposit 30 cm thick containing numerous re-deposited Maastrichtian fossils. The fossils show no signs of wear and are of very different sizes including 1 mm thick juvenile belemnites. The deposit has been described as a lag-sediment (5). Among the various fossils are teeth of mosasaurs (6). Thus there is coincidence in time between the extinction of mosasaurs and other Cretaceous organisms.

This leads to the conclusion, that extinction of terrestrial dinosaurs took place earlier than extinction of marine dinosaurs at the Cretaceous-Tertiary boundary.

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